

## **REMARKS**

The title of the invention was objected to as not descriptive. The title of the invention was amended.

Claim 1 was rejected under 35 U.S.C. 103(a) as being unpatentable over Momose in view of Hebert; claims 2, 4-6 and 8 were rejected under 35 U.S.C. 103(a) as being unpatentable over Momose and Hebert in view of Kabir; and claims 3 and 7 were rejected under 35 U.S.C. 103(a) as being unpatentable over Momose, Hebert, and Kabir as applied to claims 1 and 5, and further in view of Prior Art Figure 1.

Claim 1 of the instant invention comprises the limitations of a buried collector layer; a counterdoped collector region adjacent to said buried collector layer, and a base region adjacent to the counterdoped collector region. As acknowledged by the examiner the Momose patent does not describe a counterdoped collector region adjacent to the base region. The Herbert et al. patent teaches a self aligned implantation process to form the intrinsic base region. During this implantation of p-type dopants, the region above the N<sup>+</sup> sinker region is left open and the p-type dopants are allowed to enter the N<sup>+</sup> sinker region. The N<sup>+</sup> sinker region is equivalent to the N<sup>+</sup> buried region in the instant disclosure. The Herbert et al. patent therefore teaches that p-type dopants can be implanted into the equivalent of the N<sup>+</sup> buried region without affecting the performance of the transistor. Claim 1 of the instant invention requires a counterdoped collector region adjacent to a buried layer and adjacent to the base region. Clearly this is not taught in the Herbert et al. patent. In addition there is no teaching that would lead one to the structure of claim 1 of the instant invention. The Herbert et al. patent teaches an inadvertent implantation of p-type dopant into an N<sup>+</sup> sinker region and not into the collector region adjacent to the base region. The implantation is a by-product of the structure during the implantation process only. There is no suggestion to combine the patents to provide a device that has applicability in high

frequency communication circuits. Claim 1 is therefore allowable under U.S.C. 103(a) over the Momose patent in view of the Herbert et al. patent.

Claim 5 comprises all the limitations of claim 1. The Kabir et al. patent does not teach or describe a counterdoped collector region adjacent to the base region. Claim 5 is therefore clearly allowable over the Momose patent in view of the Herbert et al. patent and the Kabir et al. patent. Claims 2-4 and 6-9 all contain the limitation of a counterdoped collector region and are therefore also allowable over the Momose, Kabir et al., and the Herbert et al. patents.

In light of the above, it is respectfully submitted that the present application is in condition for allowance, and notice to that effect is respectfully requested.

While it is believed that the instant response places the application in condition for allowance, should the Examiner have any further comments or suggestions, it is respectfully requested that the Examiner contact the undersigned in order to expeditiously resolve any outstanding issues.

To the extent necessary, Applicants petition for an Extension of Time under 37 CFR 1.136. Please charge any fees in connection with the filing of this paper, including extension of time fees, to the deposit account of Texas Instruments Incorporated, Account No. 20-0668.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Peter K. McLarty', with a long horizontal flourish extending to the right.

Peter K. McLarty  
Attorney for Applicants  
Reg. No. 44,923

Texas Instruments Incorporated  
P.O. Box 655474, MS 3999  
Dallas, TX 75265  
(972) 917-4258